

ABSTRACT OF THE DISCLOSURE

An exchange coupling film has an antiferromagnetic layer made of an antiferromagnetic material containing an element X and Mn, where the element X is
5 selected from the group of elements consisting of Pt, Pd, Ir, Rh, Ru, and Os, and combinations thereof. The antiferromagnetic layer has a region in which the ratio of the atomic percent of the element X to Mn increases in a direction towards said ferromagnetic layer. The crystalline structure of at least part of said antiferromagnetic layer has a
10 CuAu0I type face-centered square ordered lattice.